

The Exploration and Practice of the Construction of Civic Politics in Computer Science Courses under the Perspective of "Three-Whole Education"

Desheng Zeng¹, Xiaodan Chen¹, Shuanglong Pang^{1,*}, Cui Shao¹ and Xuemin Chen²

¹Guangdong Innovative Technical College, School of Information Engineering, 523960 Dongguan, China

²Guangdong Innovative Technical College, School of Marxism, 523960 Dongguan, China

Abstract. Taking the computer application technology professional group of Guangdong Innovation Technology College as an example, we study the problems of computer professional group in the construction of curriculum thinking politics, firstly, we explore the basic requirements of curriculum thinking politics from the perspective of "Three-Whole Education", then we explore the value of curriculum thinking politics, and then we study the top design and bottom implementation of talent training of professional group from many aspects. Then, we will explore the value of curriculum thinking and politics, and then carry out research from various aspects such as top-level design and bottom-level implementation of professional group talent training. We will build the construction pattern of "Three-Whole Education", and combine with the construction of professional groups to build the construction pattern of the curriculum of professional groups in terms of talent training objectives, thinking and political objectives, thinking and political content, etc., so as to promote the construction of the curriculum of the provincial-level professional group of computer application technology in our university and realize the educational goal of cultivating people with moral character.

1 Introduction

In 2017, the State Council of the CPC Central Committee issued the document "Opinions on Strengthening and Improving Ideological and Political Work in Colleges and Universities under the New Situation", in which it is clearly pointed out that strengthening and improving ideological and political work in colleges and universities, actively promoting the whole staff, the whole process and all-round education, that is, the "Three-Whole Education". As one of the important positions of talent cultivation, vocational colleges and universities should actively promote the "Three-Whole Education", fully implement the Party's education policy, adhere to the direction of socialist schooling, comprehensively improve the level of ideological and political work, and cultivate qualified builders and successors of socialism who are well-rounded, moral and talented[1].

As China enters a new stage of development, industrial upgrading and economic restructuring are accelerating, the demand for technically skilled personnel in various industries is becoming more and more urgent, and the important status and role of vocational education is becoming more and more prominent. However, compared with developed countries, compared with the requirements of building a modernized economic system and building a strong education country, China's vocational education still has

problems such as system construction is not perfect, vocational skills training base construction needs to be strengthened, system standards are not sound enough, insufficient motivation for enterprises to participate in running schools, supporting policies conducive to the growth of technically skilled personnel are yet to be improved, and the quality of schooling and talent training levels vary, to The time has come when we must make great efforts to catch up. Without modernization of vocational education, there is no modernization of education. In order to implement the spirit of the National Education Conference and further improve vocational education in the new era, in 2019, the State Council issued the document "National Vocational Education Reform Implementation Plan". The spirit of the document requires adhering to Xi Jinping's thought of socialism with Chinese characteristics in the new era as the guide, and placing vocational education in a more prominent position in education reform and innovation and economic and social development. Firmly establish the new development concept, serve the need to build a modern economic system and achieve higher quality and fuller employment, dovetail with technological development trends and market demand, improve the vocational education and training system, optimize the layout of schools and majors, deepen the reform of the school system and the reform of the education mechanism, to promote employment and adapt to the

* Corresponding author: pangshuanglong@vclimbers.org

needs of industrial development as the guide, encourage and support all sectors of society, especially enterprises to actively support vocational education. Investing in training high-quality workers and technical skills talents[2].

Our computer application technology professional group was awarded the provincial project in 2021, and we are actively exploring professional construction in many aspects. With the above-mentioned documents, we will further give full play to the characteristics and advantages of vocational education in higher vocational institutions, promote the reform and construction of professional courses from the perspective of " Three-Whole Education ", and aim to cultivate technical and skilled talents with awareness, sentiment, ideal, morality, culture, literacy and innovation, and promote the construction of curriculum thinking and politics in a solid manner. Construction.

2 The narrative of Curriculum Civics

2.1. The narrative of Curriculum Civics

In the traditional sense, the nature of the "Civic Science Course" is characterized by its aeropolitical attributes, and is a specialized course set up by schools at all levels to achieve the goals of ideological and political education. Usually, the course content of the Civics course is guided by Marxism, Xi Jinping socialism with Chinese characteristics for a new era and other ideas, in the form of systematic dissemination of socialist ideology to carry out teaching. In terms of teachers, the teachers of Civics courses are generally professional teachers with a background in politics and knowledge, and in terms of teaching, Civics courses in all kinds of schools are designed to instill mainstream ideology into students through a systematic curriculum[3-4].

At present, what we call "Civic Politics in the Curriculum" is to fully explore the Civic Politics elements in professional courses and integrate them into the curriculum design and teaching of professional courses. There are obvious differences from the traditional Civic Science courses:

(1) Course Civic Politics is based on the original curriculum, mining Civic Politics elements, adding Civic Politics theoretical knowledge and application skills in the teaching process, rather than simply the Civic Politics of the curriculum, is a way to cultivate moral and political education in the curriculum;

(2) different from the traditional sense of the Civic and Political Science course, Civic and Political Science course is the whole process of cultivating students' worldview, values and moral values, while the course Civic and Political Science is the integration of various types of correct outlook on life and values in ideological and political education into professional courses, which belongs to the integration of professional skills education and Civic and Political Science education.

At present, with the emergence of new communication media such as the Internet, microblogging and self-media, information is spread

more rapidly, the content is more extensive, and the form is more open and free. The emergence of such new media has provided a convenient platform for the general public to obtain all kinds of knowledge and carry out communication and exchange conveniently. At the same time, it also provides a multi-directional communication channel for the spread of socialist ideology, which is more conducive to the spread of positive socialist core values. However, the current international game and international political turmoil. China's cultural and political advocacies, when integrated into the international community, have been obstructed by some countries in many ways. At the same time, in these channels of information media communication, there are also problems of cultural infiltration and attacks easily, and there is great pressure on the state in terms of ideological protection. Especially, the ideology of young people is extremely vulnerable to impact, leading to long-term effects, which brings us a great test[5].

As vocational colleges and universities are responsible for training socialist successors, at the current stage, ideological and political education in schools is mainly based on courses of Civics, such as Introduction to Mao Zedong Thought and Socialist Theoretical System with Chinese Characteristics, The Process of Chineseization of Marxism and the Mission of Young Students, Form and Policy, etc. This kind of traditional Civics courses, because of the low correlation between the course content and professional education and vocational education, and the old teaching methods in the classroom, cannot make students interested in learning, and students' enthusiasm is low and their participation is low. In the teaching process, it is impossible to integrate the content of Civic Education into the whole training process of students, and there is a big gap between the expected goal of Civic Education and the reality.

In such a context, "Curriculum Civic Science and Politics" was born, which is a new form of Civic Science and Politics education, holding the classroom as the main position, integrating ideological and political education in the quality courses for cultivating various general abilities and professional courses for vocational jobs, based on Marxist theory, combined with the excellent Chinese traditional culture, and disseminating the core socialist values in the classroom. Disseminate socialist core values, spread and create positive energy in the classroom, meet spiritual and cultural needs, guide students to establish correct values, achieve the effect of strengthening ideological and political education, and promote the continuous progress of the moral level and cultural quality of the whole society[6-7].

2.2 The Value of Curriculum Civics

First of all, in terms of political value, the purpose of Curriculum Civics is to make Civics courses no longer become islands of ideological and political education, and to avoid gaps in ideological and political education by tapping into Civics elements and implanting Civics content naturally into other professional courses.

Students learn all the courses of public courses, Civics courses and professional courses to form a unified understanding and build a complete ideological value system in line with socialist development. Therefore, the political value of "Curriculum Civic Politics" and "Civic Politics Course" is the same, both of them are to improve students' political consciousness and their ability to resist ideological and cultural invasion by integrating ideological and political education into all stages of students' studies during their school years. The ability to resist ideological and cultural invasion[8].

Secondly, the educational value of curriculum Civics is mainly reflected in the following two aspects:

(1) the reform practice of teaching methods. The emergence of Curriculum Civics is a typical reform of teaching methods, which does not destroy the integrity of the existing curriculum. Curriculum Civics, on the basis of ensuring the systematicity and integrity of the curriculum, adds the idea of Civics in teaching, introduces excellent cases from traditional culture, and enhances the effectiveness of Civics education. The inclusion of professional courses allows for fuller use of a wide variety of cases as demonstrations and diverse teaching methods, with differences in content between different courses, but with the same ultimate goal of achieving the educational goal of building moral character. In the practice of teaching reform, the requirement of ideological and political, ideological content, into the actual classroom teaching, will continue to promote the improvement of teachers' teaching ability.

(2) Make up for the shortcomings of the Civics course. At present, many teaching methods of the Civics course are outdated, resulting in low teaching quality. Therefore, the reform of curriculum Civics can allow professional courses to include adequate Civics content, and the combination of Civics elements and professional courses greatly enhances the value of ideological and political education. The increase of various professional courses also allows more diversified forms of expression of Civic and Political content, for example, with the help of teaching software and practical environment in professional courses, combined with experimental instruments, production and practical training equipment, so that teaching becomes more vivid and interesting, and the changes in teaching methods and teaching process make students more receptive in the case that the goals of teaching implementation are consistent with the goals of social values.

3 Constructing a "Three-Whole Education" curriculum thinking and politics construction pattern

At present, many institutions have some problems when they carry out curriculum thinking politics, as follows. Firstly, the lack of awareness, many teachers do not think seriously, fail to fully understand the importance of curriculum thinking politics, the lack of systematization of the courses they hold, and fail to fully explore the elements of thinking politics. Secondly, there is a lack of evaluation system for curriculum thinking politics at the

school level. Whether teachers fully exploit the thinking political elements in a course, and whether classroom teaching achieves the effect of thinking political education. At the same time, the teaching management and supervision departments have not formed an effective quality evaluation embodiment and evaluation standard for the reform of curriculum thinking politics, and lack effective supervision, feedback and guidance mechanism.

In the construction of professional clusters in vocational colleges, it is a difficult and complicated task to realize the goal of cultivating new socialist youth with all-round development of moral, intellectual, physical and aesthetic qualities. How to implement the fundamental task of cultivating people with moral character, we need to insist on the concept of whole-person, whole-process and all-round education as the guidance, and build the " Three-Whole Education " curriculum thinking and politics construction pattern.

(1) the whole staff: including the leadership of the institution, as well as the teachers of Civics, public class teachers, teachers of professional courses and counselors;

(2) The whole process: Throughout the whole process of talent cultivation, starting from new students' entrance education, to professional education, and finally to each link of talent cultivation such as graduation internship and graduation design;

(3) All-round: from the school level, to the faculty level, to the level of the students' majors, from inside to outside the classroom, from inside to outside the school, from theory to practice, all possible aspects of nurturing people are united to sort out all kinds of professional courses. At the same time, it also requires every teacher from the Party Committee at all levels, secondary colleges, professional teaching and research departments, counselors, teachers of Civics, public courses and professional courses to actively participate in the process of building and implementing the curriculum Civics, combining the content of Civics with the content of professional courses to help students establish the right concept.

In the construction pattern of " Three-Whole Education ", through the whole school, the whole school, with one heart, form a good teaching atmosphere within the school, through various forms of collective discussion, research, continuous exploration, practice, and repeatedly try in different courses, and strive to achieve each professional course contains sufficient elements of thinking and politics. Let every area and stage of students' learning career include ideological and political education, so as to improve the overall political quality of students. In all the courses can organically include elements of ideology and politics, so as to achieve the "whole staff", "whole process", "all-round" education, forming a "Three-Whole Education" curriculum construction pattern.

In the process of establishing a collaborative system of learning and teaching from the perspective of Civic Education, the following steps are adopted in the specific exploration and practice process:

(1) Carry out an effective teacher cultivation mechanism.

For the teachers of professional clusters, first of all, the teaching concept of teachers should be updated, and every teacher in the teaching team of professional courses should study how to integrate Civic and Political Education into the teaching process of professional courses. For teachers of professional courses, public courses, Civics and counselors, all kinds of personnel should carry out Civics training in a planned way, so that all teachers can participate, not in the form of rigidly stuffing Civics content in all courses, but on the basis of understanding the laws of teaching and proposing practical ways to integrate Civics elements.

(2) Carry out collective lesson preparation.

The system of regular seminars is established for the specialization of Civic Education, and collective preparation activities are required to be carried out together in a certain cycle. First of all, from the professional level, all courses are required to have a clear teaching objective of "curriculum thinking and politics". Then, through the second-level colleges or professional teaching and research departments as a unit, invite professional teachers, counselors and party branch secretaries of the classes taught in the courses to prepare lessons together, organize hot and focal issues of concern to college students, provide more reference bases for professional teaching, dig deeper into the typical thinking and political elements in professional courses, and serve the teaching of course thinking and political science.

(3) Innovative evaluation system of course Civic Science.

With the reform practice of course Civics, the traditional supervisory evaluation system is not quite suitable for the teaching link of current course Civics. It should be required to start from the excavation, integration, implementation effect, student satisfaction and other aspects of the thinking political elements, from the perspective of "Three-Whole Education", to build "school + department + major + course" multi-level evaluation method, in the specific evaluation cycle, also In the specific evaluation cycle, the combination of process assessment and result assessment should be fully considered, and the combination of special supervision of course thinking politics and daily teaching supervision should be implemented to ensure that course thinking politics is implemented in every teaching process.

4 Exploring the construction of curriculum thinking and politics of computer professional group

4.1 Professional Cluster Talent Training Objectives

The computer application technology professional group of our school focuses on the requirements of vocational education in the new era and connects to the new generation information technology industry chain of electronic information in Guangdong, Hong Kong and Macao Bay Area. Through five years of construction, we

will promote in-depth cooperation between schools and enterprises, complete construction projects related to industrial colleges, build high-level training bases for cloud computing and big data, cultivate a high-level "dual-teacher" teacher team, and build a "dual element" education model for industry-education integration between schools and enterprises. "The professional group will become a professional group of computer application technology with certain influence in the province and form a brand that can be promoted and replicated; graduates will realize high quality employment in high-end electronic information industry and form a professional group with leadership and radiation. By deepening the cooperation between schools and enterprises, we will jointly build information technology teaching resources, jointly develop project-based teaching materials and implement pedagogical reform; create an innovative dual-teacher teaching team combining both professionals and teachers; build a high-level practical teaching base between schools and enterprises; create an information technology innovation service platform, strengthen the social service level of the professional group, and build a community of school-enterprise talent training. In the professional construction, we actively carry out education and teaching reform based on the "1+X" certificate; build vocational education standards for professional clusters with Chinese characteristics; and establish a sustainable development guarantee mechanism for professional clusters in cooperation with multiple parties. Through building and forming a brand of professional group that can be promoted and exported, the construction of professional group will reach the top of provincial private institutions and become a sample professional group that closely matches and deeply integrates with local industries, so as to achieve the goal of serving the economic construction and social development of Guangdong, Hong Kong and Macao Bay Area.

4.2 Construction of ideological objectives of the curriculum of the professional group

Taking the "Three-Whole Education" as a guide, all teachers in the second-level faculty of the College of Information Engineering should sort out the responsibilities and concepts of thinking and educating people, and let teachers of professional courses take the responsibilities of thinking and educating people, so as to promote the work of thinking and educating people in a practical way. At the same time, according to the requirements of the whole curriculum education, the top-level design of the talent training program of professional clusters, each professional talent training program according to professional characteristics, as well as the main vocational orientation of students and the main vocational job groups, scientific formulation of their own characteristics of the Civic Education objectives. Therefore, the construction of the ideological and political objectives for the computer application technology professional group is carried out mainly from the following steps.

Firstly, taking Xi Jinping Thought on Socialism with Chinese Characteristics in the New Era as the guide, according to the school's orientation and the development of regional economy and society, the demand for the Civic and Political Literacy of the talents cultivation of the computer application technology professional group, focusing on the analysis of the job vocational ability of the professional group, the talent training target and the vocational literacy ability index, digging and sorting out the Civic and Political elements.

Secondly, on the basis of the Civic and Political elements at the professional level, the Civic and Political elements in the curriculum are refined according to the content and characteristics of specific professional courses, forming a library of Civic and Political elements that are complementary to the Civic and Political elements at the professional group level.

4.3 Construction of Civic Political Content of Courses of Professional Clusters

In the construction of the specific course Civic Politics content of the professional group, the focus is on the public courses and platform courses of the professional group. For example, for the platform courses of programming foundation, computer network technology foundation, Linux operating system application, database technology and application, which focus on the characteristics of the general ability cultivation of each major in the professional group, fully exploit the political thinking elements contained in them and sort out the integration point between political thinking education and professional education, i.e., the political thinking elements of the professional group, and in the specific operation process, according to the needs of different professional talents cultivation in the professional group and the characteristics of specific courses and teaching contents, explore the political thinking elements. In the specific operation process, according to the needs of different professional talents training in the professional group, the specific courses and teaching content characteristics of the thought politics elements, the construction of computer application technology professional group course thought politics "elements library".

Among them, the "element library" mainly includes: the world view and methodology in Marxist philosophy, socialist core values, Chinese excellent traditional culture and Xi Jinping's new thoughts on governance in the new era. It also contains scientific spirit, professionalism, innovation, craftsmanship, pursuit of excellence, patience and concentration, innovation, team spirit, safety awareness, and professional standards.

In the specific teaching process, build a "teaching method library" for teaching Civics in computer application technology professional group courses. According to the characteristics of the curriculum and different teaching contents, the teaching process of the knowledge points of each course is appropriately integrated with the content of Civic Education to avoid rigid application. In the specific practice process, the

specific ideological elements of computer application technology professional group courses are integrated in the following ways:

(1) Derivation: in the teaching of professional knowledge points, refine and derive the ideological elements implied behind the professional knowledge points, for example, in the course of "Programming Fundamentals", derive the significance of the national level, investing a lot of human and material resources to develop basic software.

(2) Case-based: In the teaching, we select typical cases that are widely disseminated to realize the organic integration of professional learning and thought politics education, for example, in the course of "Database Technology and Application", we use the story of Aliyun's "de-IOE" to emphasize the positive significance of open source. For example, in the course of "Database Technology and Application", the story of "de-IOE" of Ali cloud is used to emphasize the positive significance of open source database system to the country.

(3) Thematic: embedding the elements of Civic Science in a certain part of the teaching content, for example, in the course of "Linux Operating System Application", through the introduction of a brief history of the development of operating systems, emphasizing the important role of localized operating systems for the country.

(4) Experiential: Through participation in a certain teaching activity, the students can implicitly cultivate relevant ideological and political literacy, for example, in the course of "Fundamentals of Computer Network Technology", through leading students to visit the school network center and data center, introducing the situation of various kinds of domestic servers and network equipment, and emphasizing the positive significance of localization of infrastructure in the information society. The positive significance of localization of infrastructure in the information society.

4.4 Exploring the "Internet+" teaching method of Civic Science in professional group courses

On the basis of the traditional lecture method, make full use of the technology and means provided by the Internet, big data, cloud computing and other new generation information technology to carry out the reform of "Internet+" teaching methods and approaches. In the teaching process, teachers can make full use of information technology to realize diverse teaching methods, such as visualization, storytelling and other teaching methods, give full play to the main position of students, mobilize the subjective initiative of students in the classroom, improve students' participation in the teaching process, and guide students to think about and understand the intrinsic value of Civic Science elements. In addition, it can also carry out the analysis of students' situation through various information platforms of "Internet+", using log data elements such as access hours and hotspots in various platforms, and using big data analysis technology to analyze students' learning needs,

psychological characteristics, value orientation and other factors to provide good data support.

5 Conclusion

In the course of the construction of curriculum thinking and politics in our university, we strengthen the top-level design, explore the "element library" of curriculum thinking and politics at the level of the professional group, adhere to the correct political direction in classroom teaching, realize the "political value" and "educational value" of curriculum thinking and politics, and form a synergistic mechanism between "teaching" and "educating people" to ensure the realization of the goal of "Three-Whole Education".

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References

1. The central committee of the communist party of china and the state council. (2017). The Central Committee of the Communist Party of China (CPC) The State Council Issued the Opinions on Strengthening and Improving the Ideological and Political Work of Universities under the New Situation. Central People's Government of the People's Republic of China. http://www.gov.cn/xinwen/2017-02/27/content_5182502.htm.
2. State council. (2019, January 24). State Council on the Issuance of National Vocational Education Reform Notice of Implementation Program. Central People's Government of the People's Republic of China. http://www.gov.cn/zhengce/content/2019-02/13/content_5365341.htm.
3. Du, S. (2023). Exploration and Analysis of the Implementation Plan of the Three-whole Education in Xianyang Normal University. *Journal of Educational Theory and Management*, 7(1), 6-11.
4. Huang, H., Chang, S., Liu, Z., Hu, Y., Xia, T., & Yu, D. G. (2020, December). Promoting "Three-Whole Education" through Back Feeding Teaching of Scientific Researches. In 2020 6th International Conference on Social Science and Higher Education (ICSSHE 2020) (pp. 28-33). Atlantis Press.
5. Wang, B. (2021). Artificial intelligence technology simulation university three whole education moral education model research. In *Big Data Analytics for Cyber-Physical System in Smart City: BDCPS 2020*, 28-29 December 2020, Shanghai, China (pp. 844-850). Springer Singapore.
6. Li, Y. (2023). Construction and Practice of Multi-dimensional Ideological and Political Education Ecosystem in College English Curriculum under the "Three Whole Education" Pattern. *Curriculum and Teaching Methodology*, 6(3), 85-88.
7. WANG, H., DU, Y., BAI, J., ZHOU, P., & FENG, Y. (2021). Innovation and practice on training the innovative undergraduate talents in universities under the background of "Three Whole Education"—taking the Biomedical Engineering College of Chongqing Medical University as an example. *Chinese Journal of Medical Education Research*, 1263-1266.
8. Li, H. (2023). Research on the innovation path of the synergy between thinking and government education and student management in colleges and universities under the perspective of "three comprehensive education". *Contemporary Education and Teaching Research*, 4(3), 99-103.